IN THE CLAIMS:

1. (PREVIOUSLY PRESENTED) A method for operating a node in a computer network, the node connected to other nodes by links, comprising:

determining a path to a destination, the path including one or more links;

determining at least one alternate path having at least some of its one or more links differing from the links of the path;

reserving resources for said at least one alternate path;

subsequent to reserving resources, detecting a link failure on the path; and

rerouting traffic on said at least one alternate path in case of a link failure.

2. (ORIGINAL) A method as in claim 1, further comprising:

periodically updating said at least one alternate path.

3. (PREVIOUSLY PRESENTED) A method as in claim 1, further comprising:

determining a plurality of alternate paths forthe path, and said plurality of alternate paths do not have any link in common.

4. (ORIGINAL) A method as in claim 1, further comprising:

rerouting user traffic substantially simultaneously to each link of said at least one alternate path.

5. (ORIGINAL) A method as in claim 1, further comprising:

reserving resources on said at least one alternate path for switching real-time connections first.

6. (PREVIOUSLY PRESENTED) A node in a computer network connected by links, said node comprising:

means for determining a path to a destination, the path including one or more links;

means for determining at least one alternate path having at least some of its one or more links differing from the links of the path;

means for reserving resources for said at least one alternate path prior to detecting a link failure on the path; and

means for rerouting traffic on said at least one alternate path in case of a link failure.

7. (ORIGINAL) A node as in claim 6, further comprising:

means for periodically updating said at least one alternate path.

8. (PREVIOUSLY PRESENTED) A node as in claim 6, further comprising:

means for determining a plurality of alternate paths for the path, and said plurality of alternate paths do not have any link in common.

9. (ORIGINAL) A node as in claim 6, further comprising:

means for rerouting user traffic substantially simultaneously to each link of said at least one alternate path.

10. (ORIGINAL) A node as in claim 6, further comprising:

means for reserving resources on said at least one alternate path for switching real-time connections first.

11. (PREVIOUSLY PRESENTED) A node in a computer network connected by links, said node comprising:

a transit connection manager (TCM) adapted to

set up transit connections for a path,

update routing tables,

route traffic; and

an alternate path manager adapted to

determine at least one alternate path for use in case of failure of a link of the path,

allocate connections on said at least one alternate path prior to a link failure on the path,

reserve resources on said at least one alternate path prior to a link failure on the path,

request to said TCM the rerouting of traffic on said at least one alternate path in case of a link failure.

12. (PREVIOUSLY PRESENTED) The node according to claim 11, further comprising:

said at least one alternate path is a plurality of alternate paths that each include one or more links and the plurality of alternate paths do not have any link in common.

13. (PREVIOUSLY PRESENTED) The node according to claim 11, further comprising:

said alternate path manager adapted to reroute user traffic to each link of said at least one alternate path.

14. (ORIGINAL) The node according to claim 11, further comprising:

said alternate path manager adapted to reserve resources on said at least one alternate path for making real-time connections first.

15. (PREVIOUSLY PRESENTED) A node in a computer network connected by links, said node comprising:

a transit connection manager (TCM) adapted to

set up transit connections for a path,

update routing tables,

route traffic; and

an alternate path manager adapted to

determine at least one alternate path for use in case of failure of a link of the path,

allocate connections on said at least one alternate path prior to a link failure on the path,

reserve resources on said at least one alternate path prior to a link failure on the path,

request to said TCM the rerouting of traffic on said at least one alternate path in case of the link failure,

periodically re-determine at least one alternate path for the path in response to user traffic, network resources, and quality of service changes.

16. (ORIGINAL) The node according to claim 15 further comprising:

said alternate path manager adapted to periodically update said re-determined at least one alternate path after a predetermined period of time.

17. (PREVIOUSLY PRESENTED) A method of non-disruptive packet switching in a network having nodes interconnected with transmission trunks, said method comprising:

pre-selecting at least on alternate path for each trunk;

reserving connections at each node to make said at least one alternate path;

reserving bandwidth resources to transmit packets on said at least one alternate path;

subsequent to the reserving connections and reserving resources, detecting a failure of a particular trunk; and

switching the path of a packet from said particular trunk, in response to failure of said particular trunk, to said at least one alternate path.

18. (PREVIOUSLY PRESENTED) The method according to claim 17 further comprising:

said at least one pre-selected alternate path is a plurality of alternate paths that each include one or more trunks, and the plurality of paths do not have any trunk in common.

19. (PREVIOUSLY PRESENTED) The method according to claim 17 further comprising:

rerouting user traffic to each trunk of said at least one alternate path.

20. (ORIGINAL) The method according to claim 17 further comprising:

reserving resources said at least one alternate path for making a real-time connection first.

21. (PREVIOUSLY PRESENTED) A method of non-disruptive packet switching in a network having nodes interconnected with transmission trunks, said method comprising:

pre-selecting at least on alternate path for each trunk;

reserving connections at each node to make said at least one alternate path;

reserving bandwidth resources to transmit packets on said at least one alternate path;

subsequent to the reserving connections and reserving resources, detecting a failure of a particular trunk;

switching the path of a packet from said particular trunk, in response to failure of said particular trunk, to said at least one alternate path; and

re-selecting at least one new alternate path for each trunk in response to user traffic, network resources, and quality of service changes.

22. (ORIGINAL) The method according to claim 21 further comprising:

periodically updating said re-selected at least one new pre-selected alternate path after a predetermined period of time.

23. (PREVIOUSLY PRESENTED) A packet switching computer network comprising:

a plurality of nodes interconnected by links, said nodes having

a transit connection manager (TCM) adapted to

set up transit connections,

update routing tables,

route traffic; and

an alternate path manager adapted to

determine at least one alternate path for each link,

allocate connections on said at least one alternate path prior to a link failure,

reserve resources on said at least one alternate path prior to a link failure,

request to said TCM the rerouting of traffic on said at least one alternate path in case of a link failure.

24. (PREVIOUSLY PRESENTED) The network according to claim 23 further comprising:

for each outbound trunk, said at least one pre-selected alternate path is a plurality of alternate paths that each include one or more trunks, and the plurality of alternate paths do not have any trunk in common.

25. (PREVIOUSLY PRESENTED) The network according to claim 23, further comprising:

said alternate path manager adapted to reroute user traffic to each trunk of said at least one alternate path.

26. (ORIGINAL) The network according to claim 23 further comprising:

said alternate path manager adapted to reserve resources on said at least one alternate path for real-time connections first.

27. (PREVIOUSLY PRESENTED) A packet switching computer network comprising:

a plurality of nodes interconnected by links, said nodes having

a transit connection manager (TCM) adapted to

set up transit connections,

update routing tables,

route traffic; and

an alternate path manager adapted to

determine at least one alternate path for each link,

allocate connections on said at least one alternate path prior to a link failure,

reserve resources on said at least one alternate path prior to a link failure,

request to said TCM the rerouting of traffic on said at least one alternate path in case of a link failure,

periodically re-determine at least one alternate path for each link in response to user traffic, network resources, and quality of service changes.

28. (ORIGINAL) The network according to claim 27 further comprising:

said alternate path manager adapted to periodically update said re-determined at least one alternate path after a predetermined period of time.

29. (PREVIOUSLY PRESENTED) A method in a node of a packet switching communication network having a plurality of access and transit nodes interconnected with transmission trunks , for, in case of failure or unavailability of an outbound trunk , rerouting user traffic to an alternate path , said method comprising:

searching, pre-selecting, and storing at least one alternate path between origin node and destination node for each outbound trunk , said searching, pre-selecting and storing done in response to existing user traffic, network resources, and requested quality of service;

pre-allocating connections to said at least one alternate path;

reserving resources on said at least one alternate path prior to failure or unavailability of an outbound trunk;

and, in case of failure or unavailability of an outbound trunk, the further steps of:

activating said at least one alternate path; and

rerouting the user traffic on said activated at least one alternate path.

30. (ORIGINAL) The method according to claim 29 further comprising:

updating said stored at least one pre-selected alternate path in response to user traffic, network resources, and quality of service changes.

31. (ORIGINAL) The method according to claim 29 further comprising:

periodically updating said stored at least one pre-selected alternate path after a predetermined period of time.

32. (ORIGINAL) The method according to claim 29, further comprising:

for each outbound trunk, said at least one pre-selected alternate path is a plurality of alternate paths and the plurality of paths do not have any trunk in common.

33. (ORIGINAL) The method according to claim 29 further comprising:

transmitting said user traffic over the network in at least one end-to-end connection established between access nodes.

34. (ORIGINAL) The method according to claim 29 further comprising:

rerouting said user traffic to each trunk of said at least one alternate path.

35. (ORIGINAL) The method according to claim 29 further comprising:

reserving resources on said at least one alternate path for real-time connections first.

36-40. (CANCELLED)

41. (PREVIOUSLY PRESENTED) The method as in claim 1, wherein the resources include bandwidth for passing traffic, and reserving resources for said at least one alternate path further comprises:

sending a message to one or more nodes associated with the alternate path, the message to request the one or more nodes to reserve bandwidth for use by the alternate path.

42. (PREVIOUSLY PRESENTED) The method as in claim 1, further comprising:

sending one or more set-up request messages to one or more nodes associated with each of the one or more alternate paths, to allocate a connection along each of the one or more alternate paths;

maintaining the connection along each of the one or more alternate paths in a standby mode; and

in response to a link failure on the path, activating the connection along at least one of the one or more alternate paths.

43. (PREVIOUSLY PRESENTED) The node as in claim 11, wherein the resources include bandwidth for passing traffic, and the TCM reserves resources for said at least one alternate path with a message to one or more nodes associated with the alternate path, the message to request the one or more nodes to reserve bandwidth for use by the alternate path.

44. (PREVIOUSLY PRESENTED) The node as in claim 11, wherein the TCM is configured to allocate connections by transmission of one or more set-up request messages to one or more nodes associated with each of the one or more alternate paths, to maintain a connection along each of the one or more alternate paths in a standby mode, and to activate the connection along at least one of the one or more alternate paths in response to a link failure.